Objective

The aim of Gust Load Alleviation techniques assessment on wind tunnel model of advanced Regional aircraft (GLAMOUR) proposal is a technological optimisation and experimental validation through an aero-servo-elastic innovative WT model of gust load alleviation control systems for advanced Green Regional Aircraft. The expected benefits of such technologies are mainly the mitigation of gust load responses, the reduction of peak stresses so to potentially decrease sizing loads and consequently increase the weight saving. Most generally, the capability to control the load distribution spanwise could contribute to other global targets such as fatigue lifetime as well aeroelastic and aerodynamic performances.

GLAMOUR project has these main objectives:

- Validate the Load Alleviation techniques based on control architectures defined by ITD member
- Develop of alternative control schemes

- Design and manufacturing of a wind tunnel model representing half GRA aircraft dynamically scaled so to be used for experimental validation purpose. The model will be equipped with active split ailerons and elevator to be used for active control

- Perform wind tunnel test with and without LA controls to validate both the proposed control schemes and the new ones developed by the consortium. To this aim, the wind tunnel proposed for experimental activity will be equipped with an ad hoc developed gust generator so to inspect the whole flight envelope and frequency bandwidth typical of the considered aircraft

- Draw a final assessment on the global benefits achievable using LA technologies in both design and off-design flight conditions.

Apart from the Project management workpackage (WP0), that includes exploitation and dissemination, the tasks to be done inside of the project are included in six workpackages.

**Field of science**

/Engineering and technology/mechanical engineering/vehicle engineering/aerospace engineering/aircraft

**Programme(s)**

**Topic(s)**

**Call for proposal**

SP1-JTI-CS-2013-01

**Funding Scheme**

JTI-CS - Joint Technology Initiatives - Clean Sky

**Coordinator**

POLITECNICO DI MILANO

Address

Piazza Leonardo Da Vinci 32

Activity type

Higher or Secondary

EU contribution

€ 466 031,10
Participants (4)

IBK-INNOVATION GMBH & CO. KG

Germany

EU contribution
€ 432 300

Address
Butendiechsweg 2
21129 Hamburg

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website
Contact the organisation

Administrative Contact
Stephan Adden (Dr.)

REVOIND INDUSTRIALE

Italy

EU contribution
€ 511 098,15

Address
Via Casale Marcangeli 13
67063 Oricola

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Website
Contact the organisation

Administrative Contact
Paolo Lautizi (Mr.)

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY

Israel

EU contribution
€ 186 570

Address
Activity type
Senate Building Technion City
32000 Haifa

Website

Administrative Contact
Jack Lavan (Mr.)

UNIVERSITY OF BRISTOL

United Kingdom

€ 146 896.44

Address
Beacon House Queens Road
BS8 1QU Bristol

Website

Administrative Contact
Julie Coombs (Mrs.)

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